

4. ESTIMATED COSTS

This section presents the quantitative cost findings for each Project EASI/ED subject area and function. Each subsection within this section presents a table listing the recurring and non-recurring current and Project EASI/ED costs for each function within a subject area. The tables also show total LCC and total NPV costs stated in current (FY96) dollars at both the Project EASI/ED function and subject area levels. The appendices provide a detailed cost breakdown of both the current system and Project EASI/ED into a common cost category structure.

To achieve a common cost category structure stated in terms of Project EASI/ED functions, the analysis utilizes a system of workbooks and worksheets to map and allocate current and Project EASI/ED costs to the Project EASI/ED functional breakout described in Section 2.3. Figure 4-1 below describes the analysis from the bottom up.

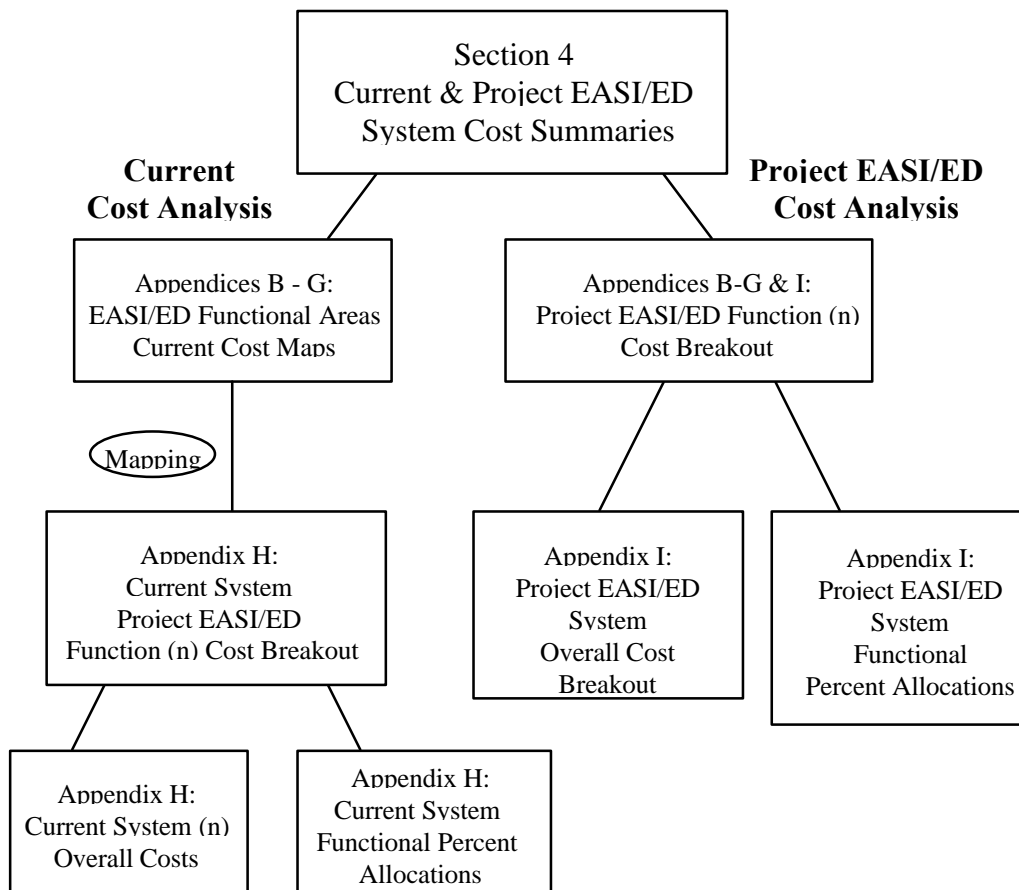


Figure 4 - 1, Current and Project EASI/ED System Cost Analysis Diagram

Appendix H contains detailed cost breakouts in the FIPS cost categories described in section 2.2 for each of the current systems. Each current system's overall costs are allocated to applicable Project EASI/ED functions on a percentage basis, with the percentages based on an analysis of the *Project EASI/ED BARD*. These percentages are shown at the top of each current system function worksheet in Appendix H. These separate current system function costs are combined to produce total costs for each Project EASI/ED

function. This step is represented in the diagram by going from the Appendix H worksheets to the Appendix B through G worksheets on the current costs analysis side. (See the **Mapping** icon in Figure 4-1). The Current Cost Mapping for each function portrays the current cost of all Project EASI/ED functions. Some of the Project EASI/ED functions have no current costs associated with them. This situation occurs because some functions are not supported by the current systems. An example of a single category within a current system cost map is shown below in Table 4-1.

Cost Category	Totals	1996	1997	1998	1999	2000		2007
Non-Recurring Costs	\$83,556,588	\$3,251,223	\$4,538,792	\$4,529,714	\$5,811,623	\$6,747,295	\$9,146,625	\$9,586,627
Capital								
Equipment:	\$797,944	\$36,006	\$44,643	\$44,554	\$57,163	\$66,366	\$83,092	\$85,584
ADPE	\$477,496	\$21,088	\$26,742	\$26,688	\$34,241	\$39,754	\$49,773	\$51,266
NSLDS Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CBS Function 1	\$350,134	\$16,300	\$19,560	\$19,521	\$25,045	\$29,078	\$36,406	\$37,498
CDS Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PEPS Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TIVWAN Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PGRFMS Function 1	\$127,362	\$4,788	\$7,182	\$7,167	\$9,196	\$10,676	\$13,367	\$13,768
LOS Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FFELP Function 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Table 4 - 1, Sample Current System to Project EASI/ED Function Cost Map

Project EASI/ED costs are calculated by allocating overall Project EASI/ED costs to Project EASI/ED functions by first determining the percentage of Project EASI/ED resources dedicated to each subject area, and then determining the percentage of Project EASI/ED subject area resources dedicated to functions within those areas. The subject area and Project EASI/ED function percentages are determined by assessing new Project EASI/ED functionality and comparing it to the current system percentages derived from current costs. Table 3.1.2-2 lists the Project EASI/ED function allocation percentages.

Using Project EASI/ED function allocation percentages the analysis apportions overall Project EASI/ED costs to each of the Project EASI/ED functions. These Project EASI/ED functional breakdown worksheets appear in Appendices B through G and in the overall Project EASI/ED cost worksheet in Appendix I.

The recurring and non-recurring cost totals from both the current system to Project EASI/ED function cost breakout and from the Project EASI/ED function cost breakout are linked directly to the recurring and non-recurring cost totals in the subject area cost summaries of Appendices B - G. The cost summary worksheet for each subject area then calculates a NPV and the LCC for each associated function and for the subject area as a whole. The subject area cost summaries of Appendices B - G, calculate total cost and present values for years 1996 through 2007.

For detailed cost buildup information on the current system, see appendix H. For information on the cost buildup of individual Project EASI/ED functions, see appendices B through G. For a detailed analysis of the overall cost of Project EASI/ED, see Appendix I.

Subsections 4.1 to 4.6 present the cost build-ups by subject area for both current system costs and Project EASI/ED costs.

4.1 Information Sharing

Many current systems contribute to the cost of the information sharing subject area. Some of the larger contributors include the Loan Origination System (LOS), the National Student Loan Data System and the Federal Family Educational Loan Program. These systems provide student financial account information and aid history. Other current systems such as TIVWAN provide the infrastructure to interact with external entities such as schools. One expensive element of the current system configuration is TIVWAN. Wide Area Networks (WANs) are expensive to maintain. WANs do not lend themselves to commodity pricing because communication providers must dedicate the line's bandwidth to one customer. Project EASI/ED will distribute data and transactions by the Internet using Internet Service Providers (ISPs) to carry some communications costs. ISPs use cheaper frame relay technology to distribute data. This and the open architecture of Internet systems leads to commodity pricing of Internet services by the ISPs.

From a current system standpoint, the information sharing subject area and its only function consume approximately 13 percent of current system resources. Project EASI/ED allocates 16 percent of overall Project EASI/ED costs to the single information sharing function, interactive student and aid organization accounts. Even though Project EASI/ED allocates a higher percentage of system resources to the performance of this function, Project EASI/ED still consumes less in this area due to open communications via the Internet and to integrated account management. Note that overall Project EASI/ED saves dollars both in terms of LCC and NPV. Resulting in a net operating payoff. Section 6 addresses cost savings and other quantifiable benefits.

Appendix B Table B-3A provides a recurring and non-recurring current system outyear cost summary for the information sharing subject area and its functions. Appendix B Table B-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4-2 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the information sharing subject area and for the subject area as a whole. All data comes from Tables B-3A and B-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	Project EASI/ED System
Function 1: Interactive Student and Aid Organization Accounts	Recurring Costs	\$411,606,273	\$406,710,712
	Non-Recurring Costs	\$61,311,942	\$4,070,425
	Subtotal by Function	\$472,918,215	\$410,781,137
	Present Value By Function	\$284,560,890	\$238,736,763
	Total Current System Life Cycle Cost for Subject Area	\$472,918,215	\$410,781,137
	Total Present Value Current Cost	\$284,560,890	\$238,736,763

Table 4 - 2, Information Sharing Cost Summary

4.2 Application

The application subject area consists of the application activities of the Central Processing System (CPS), Manual Data Entry (MDE, two contractors), LOS and NSLDS. The systems combine to provide the Free Application for Financial Student Aid (FAFSA), the application required for direct loans, and the initial account information within NSLDS. Functions three and four, Pre-Enrollment Simulation Modeling and Multi-Year Promissory Notes are not allocated current system costs because the current systems do not provide these services. Therefore, Function 2, Interactive Application Processing and Renewal, utilizes all 27 percent of current system resources dedicated to the application subject area. The driving cost categories in the application subject area primarily consist of recurring system support services provided by contractors maintaining CPS, MDE and LOS. However, CPS also contains some large costs in the non-recurring software category related to the costs for CPS phase I and II upgrades.

Application functions demand 33 percent of Project EASI/ED costs. This seems reasonable since current application systems account for almost a third of current systems costs (\$55 million/ \$180 million = 31 percent). Function 2, Interactive Application Processing and Renewal, takes up 60 percent of the application resources. Therefore, function 2 requires almost 20% ($60\% \times 33\%$) of total Project EASI/ED resources. Some application costs should diminish relative to other subject areas due to the employment of Internet communications technology. Reductions in error rates should also help to bring application costs down.

Cost pattern comparisons between the current and Project EASI/ED application functions also reveal a diminishing recurring cost pattern. Again integration and open system communication through public Internet resources will provide data communication savings fairly quickly. A single T3 data line attached to an ISP, should take advantage of commodity priced frame relay communication technology at the ISPs. The application subject area cost summary data are presented in Table 4-3.

Appendix C Table C-3A provides a recurring and non-recurring current system outyear cost summary for the application subject area and its functions. Appendix C Table C-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4-3 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the application subject area and for the subject area as a whole. All data comes from Tables C-3A and C-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	Project EASI/ED Totals
Function 2: Interactive Application Processing and Renewal	Recurring Costs	\$930,806,383	\$503,304,506
	Non-Recurring Costs	\$111,290,254	\$5,498,030
	Subtotal by Function	\$1,042,096,637	\$508,802,536
	Present Value by Function	\$627,400,880	\$295,732,929
Function 3: Pre-Enrollment Financial Aid Simulation Modeling	Recurring Costs	\$0	\$41,942,042
	Non-Recurring Costs	\$0	\$458,169
	Subtotal by Function	\$0	\$42,400,211
	Present Value by Function	\$0	\$24,644,411
Function 4: Multi-Year Promissory Note Processing	Recurring Costs	\$0	\$293,594,295
	Non-Recurring Costs	\$0	\$3,207,184
	Subtotal by Function	\$0	\$296,801,480
	Present Value by Function	\$0	\$172,510,875
	Total Current System Life Cycle Cost for Subject Area	\$1,042,096,637	\$848,004,227
	Total Present Value Current Cost	\$627,400,880	\$492,888,215

Table 4 - 3, Applying for Aid Cost Summary

4.3 Disbursing Funds

The disbursement subject area contains the largest number of functions, however the difference in percentage allocations between the current system and Project EASI/ED is small. The general functionality and volume of data and transactions between the two systems is quite similar. Project EASI/ED expands some enrollment tracking duties but should provide savings in performing common aid origination and invoiced disbursement. Therefore, the percent allocation to this subject area stays relatively constant at 17 percent of Project EASI/ED resources.

Within the disbursement subject area, functions 5, 8 and 14 require 62 percent of the disbursement subject area resources. Function 5, common aid origination stays relatively constant in comparison with current system relative costs, at 2.9 percent of system resources, because Project EASI/ED will originate roughly the same number of loans and grants with some decrease in costs due to data integration. Function 8, invoice and schedule disbursement draws on 3.23 percent of system resources due to the volume of transactions associated with disbursing invoiced funds. Finally function 14, enrollment tracking and reporting, requires the most disbursement resources due to the potential volume of the data and the interaction required with external databases. This function requires 26 percent of disbursement subject area resources and 4.4 percent of Project EASI/ED - wide resources. Again, the bulk of costs and savings occur within the recurring cost category. For the subject area as a whole the NPV drops by almost half. The disbursement subject area cost summary data are presented in Table 4-4.

Appendix D Table D-3A provides a recurring and non-recurring current system outyear cost summary for the disbursement subject area and its functions. Appendix D Table D-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4-4 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the disbursement subject area and for the subject area as a whole. All data comes from Tables D-3A and D-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	Project EASI/ED Totals
Function 5: Common Aid Origination	Recurring Costs	\$146,947,768	\$73,462,122
	Non-Recurring Costs	\$1,111,133	\$735,221
	Subtotal by Function	\$148,058,900	\$74,197,343
	Present Value by Function	\$89,143,762	\$43,121,828
Function 6: Interactive Participant Disbursement Authorization	Recurring Costs	\$0	\$21,606,507
	Non-Recurring Costs	\$0	\$216,241
	Subtotal by Function	\$0	\$21,822,748
	Present Value by Function	\$0	\$12,682,891
Function 7: Drawdown School Disbursement Authorization	Recurring Costs	\$246,378,783	\$43,213,013
	Non-Recurring Costs	\$2,758,896	\$432,483
	Subtotal by Function	\$249,137,679	\$43,645,496
	Present Value by Function	\$149,999,594	\$25,365,781
Function 8: Invoice and Schedule Disbursement Authorization	Recurring Costs	\$0	\$82,104,725
	Non-Recurring Costs	\$0	\$821,717
	Subtotal by Function	\$0	\$82,926,442
	Present Value by Function	\$0	\$48,194,984
Function 9: Disseminate School Disbursement Information	Recurring Costs	\$15,670,600	\$12,963,904
	Non-Recurring Costs	\$5,703,230	\$129,745
	Subtotal by Function	\$21,373,830	\$13,093,649
	Present Value by Function	\$12,868,605	\$7,609,734
Function 10: Perform Draw Down Reconciliation	Recurring Costs	\$123,485,372	\$21,606,507
	Non-Recurring Costs	\$1,792,544	\$216,241
	Subtotal by Function	\$125,277,916	\$21,822,748
	Present Value by Function	\$75,426,745	\$12,682,891
Function 11: Fund Source Disbursement	Recurring Costs	\$15,670,600	\$21,606,507
	Non-Recurring Costs	\$5,703,230	\$216,241
	Subtotal by Function	\$21,373,830	\$21,822,748
	Present Value by Function	\$12,868,605	\$12,682,891

Function 12: State Authorization Management	Recurring Costs	\$0	\$21,606,507
	Non-Recurring Costs	\$0	\$216,241
	Subtotal by Function	\$0	\$21,822,748
	Present Value by Function	\$0	\$12,682,891
Function 13: Consolidation Processing	Recurring Costs	\$140,278,454	\$21,606,507
	Non-Recurring Costs	\$0	\$216,241
	Subtotal by Function	\$140,278,454	\$21,822,748
	Present Value by Function	\$84,459,476	\$12,682,891
Function 14: Enrollment Tracking and Reporting	Recurring Costs	\$123,872,025	\$112,353,834
	Non-Recurring Costs	\$8,245,625	\$1,124,455
	Subtotal by Function	\$132,117,650	\$113,478,289
	Present Value by Function	\$79,477,322	\$65,951,031
	Total Target System Life Cycle Cost for Subject Area	\$837,618,259	\$436,454,959
	Total Present Value Target Cost	\$504,244,110	\$253,657,811

Table 4 - 4, Disbursement Cost Summary

4.4 Repayment

Project EASI/ED allocates less system resources (24 percent) to repayment functions than the current system. Integrated data management and interactive business and account editing should decrease operating costs more than the automatic deferment notice and initiation will increase them. The repayment maintenance function received the largest allocation of the repayment subject area at 40 percent. The repayment maintenance function also saw the largest decrease in NPV. The repayment subject area cost summary data are presented in Table 4-5 .

Appendix E Table E-3A provides a recurring and non-recurring current system outyear cost summary for the repayment subject area and its functions. Appendix E Table E-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4 -5 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the repayment subject area and for the subject area as a whole. All data comes from Tables E-3A and E-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	Project EASI/ED Totals
Function 15: Repayment Option Modeling and Selection/Repayment Counseling	Recurring Costs	\$98,065,209	\$122,013,214
	Non-Recurring Costs	\$0	\$1,221,128
	Subtotal by Function	\$98,065,209	\$123,234,341
	Present Value by Function	\$59,043,515	\$71,621,029
Function 16: Customer Service Management	Recurring Costs	\$194,071,042	\$152,516,517
	Non-Recurring Costs	\$174,752	\$1,526,410
	Subtotal by Function	\$194,245,793	\$154,042,927
	Present Value by Function	\$116,951,994	\$89,526,286
Function 17: Repayment Maintenance	Recurring Costs	\$552,292,154	\$244,026,427
	Non-Recurring Costs	\$42,948,977	\$2,442,255
	Subtotal by Function	\$595,241,131	\$246,468,682
	Present Value by Function	\$358,383,223	\$143,242,058
Function 18: Defaulted Debt Collection	Recurring Costs	\$216,055,489	\$91,509,910
	Non-Recurring Costs	\$42,861,601	\$915,846
	Subtotal by Function	\$258,917,090	\$92,425,756
	Present Value by Function	\$155,887,902	\$53,715,772
	Total Current System Life Cycle Cost for Subject Area	\$1,146,469,223	\$616,171,706
	Total Present Value Current Cost	\$690,266,633	\$358,105,145

Table 4 - 5, Repayment Cost Summary

4.5 Program Management and Oversight

The program management and oversight function receives 5 percent of Project EASI/ED resources, which equals its allocation current systems resources. Functions 19 and 20 each require 40 percent of the program management subject area's resources. Current systems allocated more to function 21 due to the extent of the manual processes that are currently performed. This function showed the most cost improvement as a result. Most cost improvement in the program management functions result from the overall lower cost structure of Project EASI/ED. The program management and oversight subject area summary data are presented in Table 4-6.

Appendix F Table F-3A provides a recurring and non-recurring current system outyear cost summary for the program management and oversight subject area and its functions. Appendix F Table F-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4-6 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the program management and oversight subject area and for the subject area as a

whole. All data comes from Tables F-3A and F-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	PROJECT EASI/ED Totals
Function 19: School Eligibility and Data Maintenance	Recurring Costs	\$52,776,168	\$50,838,839
	Non-Recurring Costs	\$5,109,369	\$555,357
	Subtotal by Function	\$57,885,537	\$51,394,196
	Present Value by Function	\$34,812,503	\$29,872,013
Function 20: Guarantor and Lender Information Maintenance	Recurring Costs	\$45,864,449	\$50,838,839
	Non-Recurring Costs	\$3,798,732	\$555,357
	Subtotal by Function	\$49,663,181	\$51,394,196
	Present Value by Function	\$29,864,793	\$29,872,013
Function 21: Program Data and Performance Information Management	Recurring Costs	\$115,675,049	\$25,419,420
	Non-Recurring Costs	\$12,622,949	\$277,678
	Subtotal by Function	\$128,297,997	\$25,697,098
	Present Value by Function	\$77,244,832	\$14,936,007
	Total Current System Life Cycle Cost for Subject Area	\$235,846,716	\$128,485,489
	Total Present Value Current Cost	\$141,922,128	\$74,680,033

Table 4 - 6, Program Management Cost Summary

4.6 Accounting

The accounting subject area contributes 5 percent of overall Project EASI/ED costs. This is the percentage contributed by this subject area to current system costs. Project EASI/ED costs generally appear lower due to the lower operating costs of Project EASI/ED.

Appendix G Table G-3A provides a recurring and non-recurring current system outyear cost summary for the accounting subject area and its functions. Appendix G Table G-3B provides a recurring and non-recurring Project EASI/ED outyear cost summary for the same subject area. The totals in Figure 4-7 below represent the sum of these costs and their NPV's in years 2000 through 2007 for all functions in the accounting subject area and for the subject area as a whole. All data comes from Tables G-3A and G-3B for the current system and Project EASI/ED respectively.

Project EASI/ED Function	Cost Category	Current System Totals	Project EASI/ED Totals
Function 22: Integrated Accounting Management	Recurring Costs	\$149,733,430	\$127,097,098
	Non-Recurring Costs	\$43,203,822	\$1,388,391
	Subtotal by Function	\$192,937,252	\$128,485,489
	Present Value by Function	\$116,158,677	\$74,680,033
	Total Current System Life Cycle Cost for Functional Area	\$192,937,252	\$128,485,489
	Total Present Value Current Cost	\$116,158,677	\$74,680,033

Table 4 - 7, Accounting Cost Summary